REMARKS

I. Objection to Claim Informality

Applicant thanks the Examiner for objecting to the informality previously present in line 3 of claim 24, wherein the second frangible seal was incorrectly referenced as "first frangible seal." Correction has been made in this Response and Amendment.

II. Claim rejection under 35 U.S.C. § 102(b) over Haber (U.S. Pat. No. 5,558,874)

It is well established that anticipation requires that each and every element of the applicant's claimed invention must be disclosed in a single prior-art reference. In re Paulson, 30 F.3d 1475, 31 U.S.P.Q.2d (BNA) 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 U.S.P.Q.2d (BNA) 1655 (Fed. Cir. 1990). It follows that absence from the reference of any claimed element negates anticipation. Koster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 U.S.P.Q.2d (BNA) 81 (Fed. Cir. 1986). Anticipation will only arise where the description of the invention, as defined by appropriately construed claims, is identically shown in as complete detail as is contained in the applicant's patent claim. Glaverbel S.A. v. Northlake Mkt'g & Supp., Inc. 45 F.3d 1550, 33 U.S.P.Q.2d (BNA) 1496 (Fed. Cir. 1995); Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 U.S.P.Q.2d (BNA) 1913 (Fed. Cir. 1989).

In this Response and Amendment, Applicant has extensively amended the claims to bring them into conformance with the patentable material previously found in the now-issued parent application; U.S. Pat. No. 6,902,335. These include limitations in various embodiments as to, in part, an expansible chamber that absorbs a portion of the kinetic energy of the flowable substance as it breaks through the second frangible seal, frangible seals including stress risers oriented in the direction of the compartments, first and second predetermined pressures created by externally pinching the compartment, a method of opening of the frangible seals by a peeling apart of the frangible seal such that no portion of the frangible seal separates from the at least

one sheet, stress risers formed of at least one sharp inflection point, and stress risers that are substantially chevron shaped.

Each and every one of these limitations is founded in claims found patentable in the parent application of the instant application, U.S. Pat. No. 6,902,335, and no teaching or even suggestion of any one of them is present in Haber. Therefore, any one of them would be sufficient to overcome a § 102(b) rejection over Haber. Collectively, they provide more than ample basis to differentiate the instant application from the device of Haber.

III. Claim Rejections Under 35 U.S.C. § 103

A. 35 U.S.C. §103(a) Rejection of Claims 9, 10, 19, 20, 23-26, 28, and 34-39 as Being Unpatentable over Haber

The Office Action rejects claims 9, 10, 19, 20, 23-26, 28, and 34-39 as being unpatentable over Haber. As detailed above, Haber fails to teach a great many of the claimed features of the instant invention, making reliance upon Haber inapt under 35 U.S.C. § 103(a).

In particular, in regards to Claims 9 and 19, the Office Action states that while Haber "does not discloses the use of a flexible laminated foil, the Examiner takes official notice that such foils are commonly employed in the making of such devices in order to effectively create a durable product." In fact, Haber expressly eliminates foil as a material, stating that "This material should be both flexible and optically [clear] so that...the user will be able to ...visualize mixing the contents." (Col. 4, lines 5-8); and later, "By virtue of the transparent nature of the material used to manufacture chambers 4, 6, and 8, the user still be able to visualize the mixing process...." (Col 6, lines 19-21). Foil, i.e., thin sheet metal, is not optically clear or transparent.

In particular, in regards to Claims 10 and 20, the Office Action states that while Haber "does not disclose the surface area of the bond, it is the Examiner's position that the bond can be of any suitable surface area (as long as the applicator is securely mounted) without affecting the overall operation of the device especially since the Applicant has not placed any criticality on

the claimed surface area...." This position of the Office Action is absolutely contrary to the teaching of the invention as to the criticality of the bond surface area.

One of the many features of the instant invention not taught by Brown is the existence of an expansive chamber 170, formed particularly for the purpose of diffusing the hydraulic shock pressure generated immediately following the rupture of the second frangible seal, e.g. 220, separating the second compartment from the chamber (see, e.g. 130A, Fig. 3C). The instant application teaches:

> Accordingly, an optimal design should provide for an easy means of fabricating packages with varying sized expandable areas. The instant invention accomplishes this by its utilization of a chamber 170, and an applicator bond area 180 and applicator 100, and in particular, expandability is imparted to the chamber by the expansion of the chamber 170 walls and by the resilient nature of the applicator 100. This resilient nature allows the contents of the chamber 170 to expand under pressure, thereby absorbing the hydraulic shock as the dispensed substance breaks through the frangible seal 210 and enters the chamber 170. The dispensed substance then tends to remain behind the applicator 100 and can be easily dispensed and spread when the applicator 100 is pressed against a surface.
>
> The volume of the chamber 170 may be varied by varying the relative size of the at least one applicator bond area 180 and the applicator 100. In a preferred embodiment, the surface area of the bond area 180 is between approximately 62.5% of the surface area of the applicator 100 and approximately 87.5% of the surface area of the applicator 100. As the ratio of the area of the applicator bond area 180 to the area of the applicator 100, expressed as a percentage, increases towards 100%, the expandability of the chamber 170 decreases and the high pressure and velocity effects noted above would become more prominent. As the ratio of the area of the applicator bond area 180 to the area of the applicator 100, expressed as a percentage, decreases towards zero, a point which it cannot reach due to the necessary resulting failure of the bond, the expandability of the chamber 170 increases and the low pressure effects noted above would become more prominent. Numerous embodiments are possible, as would be apparent to one skilled in the art, varying this applicator bond area 180 to applicator 100 area relationship, and might be selected to reflect particular characteristics of the substance to be dispensed, including by way of example and not limitation, viscosity of the dispensed substance.

United States Pat. Publ. No. 2004/0223801 paras. 81-82

Thus, a key teaching of the instant invention, utterly absent from Haber, which does not have an expansible chamber, is that the volume of the expansible chamber, and therefore the hydraulic performance of the invention, is directly affected by the bond to applicator size ratio.

Therefore, this is not a case where "the general conditions of a claim are disclosed" by the prior art.

In regards to Claim 23, the Office Action states that while Haber "does not disclose the strength of one seal with respect to the other, it does disclose that the seals are 'similar' (see Column 4, lines 58-61)." This is a direct teaching away from the instant invention, which will not function as taught if the frangible seals were merely similar. It is a limitation of the claim in question invention that the second frangible seal have a rupturing pressure that is equal to or smaller than that of the first seal.

In particular, in regards to Claims 36-38, the Office Action states that the claimed features are considered to be obvious, but give no rationale for such a finding. This does not comport with the requirements of MPEP 706.02(j) which requires: "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Claim 37 is directed to having the applicator bond exterior edge within the applicator periphery, when the "obvious" method of bonding an applicator, such as that seen in Haber, is a bond that is at or outside the periphery. Similarly, claim 38 is directed to having the surface area of the bond area be between 62.5% and 87.5% of the surface area of the applicator, a limitation that makes sense only in light of the application's teaching regarding the dynamics of an expansive chamber. The Examiner is thus respectfully asked to supply the requisite "convincing line of reasoning" required by MPEP 706.02(j) or to withdraw the rejections.

For these reasons, the rejections based on 35 U.S.C. 103(a) over Haber should be withdrawn.

B. 35 U.S.C. §103(a) Rejection of Claims 3-6, 14, 16-18, 27, and 30-33, as Being Unpatentable over Haber in View of Gruenbacher

1. Regarding Claims 3-6, 14, 16-18, 27, and 30-33, the Office Action asserts " the Gruenbacher reference ...discloses an analogous device wherein the frangible seal includes such a stress riser 14, 17, (wherein the point is oriented in the direction of the compartment...[and] discloses that the particular shape of the stress riser is not critical...."

While Gruenbacher does disclose certain variations of stress concentrators, it does not disclose sinusoidal shapes. Further, the Gruenbacher stress concentrators do not include, or disclose, a flat area. (See instant invention specification at p. 19; Figs. 2A and 2B).

The stress concentrator of FIG. 1 in Gruenbacher is not substantially chevron in shape. In fact, the stress concentrator of FIG. 1 in Gruenbacher is described in the specification as shaped like a V. Chevrons are characterized by relatively smooth curving transitions from the tip to the side members, as illustrated in FIG. 9 of the current application. The chevron shape provides particular benefits when incorporated in a frangible seal that is intended to cleanly peel apart in a controlled fashion.

The stress riser **17** of Gruenbacher is solely the V-portion of the frangible seal labeled as element **17**. In order for the stress riser **17** to comprise a flat area the flat area must be characterized by reduced strength or some other characteristic that increases the internal pressure exerted on the frangible seal at the location of the flat stress riser. Gruenbacher does not make such disclosure.

Particularly in light of the amendments made in this Amendment and response, the subject matter as a whole would not have been obvious at the time the invention was made to a person having ordinary skill in the art.

2. Regarding Claims 14 and 27, the Office Action asserts, "the Gruenbacher reference...discloses that a single sheet is folded to form the device...for the inherent benefit of forming the device from fewer parts...."

The disclosure of Gruenbacher et al. cited by the Examiner states:

> As best shown in FIGS. 1 and 2, dosing reservoir 10 is made from a flexible film 25 sealed around the perimeter by permeable membrane 15. In a non-limiting example, cell 12 can be formed from a single material partially or completely folded onto itself. The folded material is then heat sealed on at least three sides.

(col. 3, lines 35-40)

When the first sheet section and the second sheet section of the present invention are formed of a single sheet, as claimed in claims 14 and 27, the compartment and the chamber are by default formed of the single sheet. Such is not the case in Gruenbacher. Gruenbacher's disclosure regarding a "single material" is directed toward the cell labeled element **12** in figures 1 and 2. Gruenbacher's second cell, labeled element **18**, is the cell where the contents of the primary cell **12** are released when the primary cell **12** is ruptured. Gruenbacher does not suggest constructing both the primary cell **12** and the second cell **18** from a single sheet.

Particularly in light of the amendments made in this Amendment and response, the subject matter as a whole would not have been obvious at the time the invention was made to a person having ordinary skill in the art.

AMENDMENT TO THE DRAWINGS

The Applicant thanks the Examiner for objecting to the typographical error in Fig. 12, in which two elements were erroneously labeled with the same reference number. A replacement sheet is being submitted with this Response and Amendment to bring Fig. 12 into conformance with the written specification (see, e.g., p. 16, lines 11-15).

IV. Conclusion

In light of the amendments to the specification, claims, drawings, and these remarks, it is believed that each and every rejection raised by the Examiner has been overcome. It is the Applicant's position that the claims are in a condition for allowance. Allowance of the claims is respectfully solicited.

Should the Examiner have any questions or concerns prior to passing this case onto allowance, he is invited to contact the Applicants' undersigned representative.

Respectfully submitted,

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